



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

JAPANESE COLONIAL METHODS

By ELLEN CHURCHILL SEMPLE

When Japan does anything, the world looks on in an attitude of respectful attention. For Japan has given even the Western world a lesson in efficient methods and effectual results. It is therefore with some hesitation that we venture to chirp a criticism of her colonial methods, and that on points fundamental to successful colonization. We frankly admit that those methods are on the surface highly scientific—too scientific; that they are carefully elaborated and faithfully applied; that they are animated by an intelligent and beneficent spirit to protect Japan's new subjects and to develop the resources of the newly acquired lands, with economy both to those lands and to the home Government. But when all this has been said, the facts still justify the question whether Japan's colonial policy is not calculated to defeat the great national purpose which should underlie all colonization schemes.

Emerson says: "That which each can do best none but his Maker can teach him." This is eminently true of colonials. These builders of empire act best on individual initiative. In them the *laissez-faire* policy finds ample justification. But Japan's policy makes no allowance for certain natural forces which see farther into the future of national development than the most intelligent Governments. Indeed, it has the colonizing instinct of its people by the throat.

Political expansion has since 1895 acquired for Japan about 110,000 square miles of territory, into which ethnic expansion should follow. The new territories are not, according to Japanese standards, densely populated, even in the cultivated districts, and they contain vast tracts of forest and waste land. Moreover, with the exception of Karafuto, the Japanese half of the island of Sakhalin, they are well suited in point of climate for Japanese colonists. Korea has a climate superior to that of Japan proper, and Formosa, though bisected by the Tropic of Cancer, in its capital Taihoku shares the mean annual isotherm of 70° F. with New Orleans and northern Florida. Colonists from the sub-tropical islands of Shikoku, Kiushiu and Liukiu, where popula-

tion ranges from 455 to 530 to the square mile, would find a tolerable climate and desirable space in Formosa, where they could pursue familiar lines of agriculture. Yet emigration from the home islands to these natural fields of expansion has almost from the start been checked or retarded by the Government's colonial methods.

The cause is not to be sought in any dearth of surplus population, that raw material of colonies. Hardly another country needs so much untrammelled colonial expansion to relieve the pressure upon its local supply of food and land. When we say that a population of 51,591,400 souls live on 147,655 square miles constituting Japan proper, and that they show a density of 350 to the square mile or a little less than that of the United Kingdom (373 to the square mile), this statement fails to reveal the most important facts. Geographic conditions make the Japanese fatherland a typical stepmother, doling out food to her children with niggardly hand. Two-thirds of its area, small at best, is covered with rugged mountains unfit for agriculture and useless for pastures, because the native bamboo grass, which is not only innutritious but also deleterious even to sheep, chokes out all imported fodder crops. Hence about 72 per cent. of Japan's area is in forests. The coastal plains are narrow, and the alluvial valleys are scant. Considerable tracts of the lowland hem of the islands are desolate rock wastes, owing to the detritus brought down by inundating mountain torrents in the rainy season. The sharp relief of the country and the heavy precipitation during the summer monsoons combine to make the rivers carve out narrow V-shaped valleys that offer a slender foothold to agriculture.

The effective area of Japan for food purposes is further limited by the infertile character of the soils. The volcanic nature of the country has been a disadvantage. Widespread ash-rains from the late Quaternary period have overlaid and ruined otherwise good land. The volcanic soils are poor or mediocre, except certain limited districts of weathered lavas and basalt which are the most fruitful in the islands. Granitic soils, poor in plant food, cover a large area; but since they readily absorb fertilizers, they are made productive by the laborious tillage of the Japanese peasant. Only the climate of Japan, with its warm sun, its abundant and well-timed rains, and its freedom from untimely frost, is the reliable ally of the toiling farmer.

With the means at his disposal the Japanese farmer has done his utmost. Geographic conditions in islands usually apply the spur to agriculture. Tillage begins early to assume an intensive

scientific character, in order to feed an increasing population from a land area that cannot be increased. The inelastic, sea-drawn boundaries of the Japan archipelago have resulted in a precocious development of agriculture, and have given it an economic, national and esthetic importance hardly to be found elsewhere. The farmer takes a high rank in the social scale. Though ignorant of scientific reasons, he has worked out a system of tillage that is wonderfully effective. He has succeeded in making a naturally infertile soil highly productive by intensive labor,—by deep-down cultivation, abundant irrigation, and especially by repeated manuring during the development of the crop. Practically without cattle and stock to furnish manures, he relies chiefly on night-soil as the obvious substitute in these densely populated islands. Long experience has taught him how to treat this in order to get the best results; to apply it to the soil at the moment when the constituent elements are chemically most available for plant food, and before the compounds have lost ammonia by excessive decomposition. Hence his practice long ago anticipated the laboratory results of European scientific theory. Fallow fields have no part in his system; his tillable land is too small. Intensive culture, dense population, high percentage of the farming class, and small arable area in Japan have combined to produce minute land-holdings. Dwarf farming prevails. Apart from the colonial country of Yezo, the chill northern island, 1 hectare, or $2\frac{1}{2}$ acres, is the average farm per family. In 1908 over half the peasants tilled less than 2 acres, while only 1 per cent. of them held more than 12 acres.

Owing to disadvantages of relief and soil, arable land forms to-day only 14.37 per cent. of the total area of Japan proper. Ten years ago it formed 13.7 per cent., and in 1887 it was 11.8 per cent.; so the extension of the arable area proceeds slowly, despite growing pressure of population, progress of science, and encouragement on the part of the Government. The inference is that it has probably reached its limit. This small percentage of arable area means that the Japanese population of nearly 52,000,000, over 60 per cent. of whom are farmers, lives chiefly from the products of 21,218 square miles of its territory. A fact like this puts a new aspect upon the density statistics of Japan. Italy has a population of 314 to the square mile, as opposed to Japan's 350; but Italy has 49 per cent. of her area devoted to agriculture. Japan's density is nearly double that of fertile and thrifty France, with 58 per cent. under tillage; and it is triple that of Greece, whose 18.4 per cent. of arable area shows a proportion comparable to that of ill-favored Japan, but is

reinforced by extensive pasture lands. Switzerland's density is only two-thirds that of Japan; but the Alpine state has the 16.1 per cent. of its area which is under tillage supplemented by the 36 per cent. used for hay meadows and highland pastures. This advantage is, however, balanced by Japan's maritime location and abundant fisheries—those pastures of the sea.

Active emigration from all these European countries except France indicates that their respective territories, under existing economic methods of production, are saturated with population. Japan, with a greater nominal density and a vastly greater actual density, as well as a larger population to draw from, finds its emigration since 1908 narrowly restricted by Government measures, especially emigration to the United States, Canada, Mexico, and Hawaii. Count Komura, Minister of Foreign Affairs in 1909, explained this policy of the Government as a purpose to avoid all international friction which might militate against Japan's growing international trade; and furthermore to keep the Japanese in the Far East, instead of allowing them to scatter at random in foreign lands, thus concentrating them in the extended fields of activity recently opened up by two successful wars. A natural inference from this statement is that Japan regards its redundant population as useful colonial material, and is prepared to make the most of its colonial opportunities; yet, as a matter of fact, the natural outlet into these new colonial lands has been blocked.

Recent developments in Japan have created an urgent need for such an outlet. From time immemorial the farmer class has constituted the main productive power of Japan. Agriculture is still the chief basis of the national finance as in a medieval state, but it now sustains a crushing burden of taxation, because Japan has launched upon the expensive career of a modern world power. The infant industries and commerce need the coddling of light taxation. Farms must pay from 15 to 19 per cent. of the total yield as land tax alone, besides certain other local rates. Dwarf holdings can ill afford such a drain. Hence peasant proprietors are disappearing at an alarming rate; they are forced to mortgage their farms, which soon are absorbed into the larger estates and let out to tenants. In 1908 tenants tilled one-half the paddy-field area and 40 per cent. of the upland farms. Since they must pay from 45 to 57 per cent. of the total yield as rent, only by employing the whole labor force of the family, by maintaining a low standard of living, and often by combining with tillage some subsidiary occupation, can they earn a precarious subsistence. As the taxes of the Japanese farmer have

increased, his revenues have diminished, because of foreign competition. The tea of Japan finds its market progressively restricted by the growing production in India and Ceylon; its beans are being crowded to the wall by the great Manchurian export from Dairen, while its indigo, cotton and hemp crops have almost ceased to be remunerative. Only large-scale production can stand the large-scale competition of the world markets. Dwarf farms in Japan must go. The dislodged cultivator, if he remains a farmer, must seek the larger fields of Japan's colonial lands, there to practice modern large-scale tillage.

Japan has long had a genuine colonial or frontier region in the northern island of Yezo or Hokkaido (36,000 square miles), whose land reserves present on a small scale a parallel to those in the western part of the United States and Canada, though both soil and climate leave something to be desired. Its population in 1908 was only 30 to the square mile, after a steady stream of emigration from old Japan since 1896 had brought in about 700,000 souls or two-thirds of its present population. Of the 80,578 Japanese immigrants to the Hokkaido in 1908, nearly half came from North Hondo, a province only half so densely settled as the central and western provinces of the same island. But the relatively remote and segregated location of North Hondo, on the far side of the central mountain barrier of the island, had made it the earlier colonial district of old Japan. These northern Japanese, inured to a relatively harsh climate, accustomed to the tillage methods of the north, and divided by only a narrow strait from Hokkaido, were more easily attracted than the southern Japanese by the large tracts of available land and its teeming fishing grounds.

Hokkaido bears to-day all the marks of a typical frontier or colonial district. It is distinguished by the large allowance of 7.6 acres of tillage land for each farmer household, as opposed to 2.54 acres in Hondo. It is furthermore the important stock-raising district of the Empire, both on account of its abundant land and its suitability for grass crops. The island, according to official estimate, can support at least five times its present population. The state lands disposed of during the thirty-six years prior to 1907 amounted to $3\frac{1}{4}$ million acres, and as much more remains for purchase or lease, by settlers. The terms are easy, both as to price, which is nominal, and to the planting and building to be done within a period of years upon the land purchased or leased. An individual may buy tillage land to the amount of 1,250 acres, forest and stock-farming land up to 2,000 acres. Small settlers may get 25 acres

of land gratuitously on certain conditions; when they have satisfactorily finished work for the land acquired, they may purchase or lease more within the same limit. These are really munificent terms for Japan, a country used to dwarf farms, trained to the small territorial scale imposed by the cramped environment of the original islands.

Here we have genuine internal colonization. The large number of women among the immigrants point to permanent settlements and orderly households. About two-thirds of the annual accessions to the population of Hokkaido belong to the farmer class. Abundant land, acquired under the easy conditions appropriate to a colonial territory, is an attraction strong enough to outweigh the rather forbidding climate. Hokkaido, exposed to the wash of polar currents, has even in its southern half a mean annual temperature of barely 45° F. Its growing season is limited to four months, when the temperature averages only 63° F. The farmer of central or southern Japan, who is accustomed to count upon seven or eight growing months, with a mean temperature ranging from 70° to 76° F. in the hot season, needs a strong inducement to face the bleak climate of Hokkaido. These inducements the Government has wisely supplied. To the over-taxed Japanese farmer especially grateful is the exemption from taxation. In 1909 some 1,650,000 acres of allotted land in the island were free of taxes for a term of years. In Hokkaido, Japan has demonstrated her understanding of a genuine colonial policy, which aims to make solid ethnic expansion follow and overtake the previous political expansion. But her failure to apply the principle elsewhere in her new subject lands arouses the suspicion that it was chiefly an adverse climate, seconded by the obvious impossibility of otherwise developing this remote northern island, that forced Japan to this large colonial policy.

Her previous history had not trained her for such a policy. At this difficult trade she had served no apprenticeship, contrary to the experience of most island nations. The anachronism in her history was the policy of seclusion, adopted in 1624 and rigidly maintained for almost 250 years, by which all emigration and foreign trade were prohibited. By the more obvious laws of geographic probability, seventeenth-century Japan, like ancient Crete and modern England, should have colonized broadly and carried on an active maritime trade with her neighbors. Her small area, limited food supply, and sea-drawn boundaries, seconded by the possibilities of her tea and silk trade, should have forced her into commerce to feed

her growing population, especially since in previous centuries she had reaped the benefit of an Asiatic trade, reaching from the mouth of the Amur River to India, and had, moreover, developed the merchant marine wherewith to conduct it. This was the immediate effect of her maritime accessibility, favored by her insular location close to Asia on the rim of a marginal sea, of her indented shore line, her well-populated coasts, and her sea-bred nautical efficiency.

But in 1624 Jesuit intrigue to overthrow the Government, and possibly to hand it over to Catholic Portuguese rule, threatened Japan's political integrity and gave sudden alarm to that jealousy of outside interference, that ineradicable instinct for aloofness, which had been bred in the people by their segregating island environment. Japan adopted and maintained for so long a policy of seclusion because her insular location both suggested and facilitated it. But she submitted to the isolating effect of that location up to the danger-point. Small, naturally-defined regions protect a nascent civilization from outside attack and help to give it a definite aim by counteracting the primitive tendency towards dispersal; they force it to exploit the group of geographic conditions and the economic resources of the home area without wandering far afield searching for lines of less resistance; but in doing this they run the risk of teaching too well their lesson of concentration. In course of time geographic enclosure, like that of medieval Japan, begins to betray its limitations.

The size of a people's territory influences their estimate of area *per se*; it tends to fix the proportions of their territorial expansion and the scale of their private land holdings. A farm in Argentine or a ranch in western America would be a principality in Greece or Italy. A people embedded for centuries in a small natural district tend to measure area with a pocket foot-rule: the surveyor's chain is too big for their diminutive national purposes or their dwarf farms. This is the striking psychological effect of a narrow local environment. Therefore a vital turning-point is reached in the history of any people bred in such a habitat, when it breaks away from the clutch of its confined environment, and from a small, self-dependent community launches upon a career of conquest, colonization, or any form of wide territorial expansion. This is the significance of England's vast outreach from the sixteenth century onward. There is no more telling fact in the history of the English in America than the rapid evolution of their spacial ideals, their abandonment of the cramped territorial conception brought with them from their island home and embodied, for

example, in that petty land grant, fifty by a hundred miles in extent, of the first Virginia charter in 1606. The next colonial grants were bounded by parallels of latitude and the setting sun! Cosmic boundaries are not too big for the colonial standpoint. Every accession of territory to the Thirteen Colonies gave a new impulse to growth. Expansion kept pace with opportunity. Only in small and isolated New England did the contracted provincial point of view persist. It was sloughed off soonest in the broad tidewater plains of Virginia. There colonists who learned the economic value of "skimp farming" under the tutelage of slave labor, and therefore took up large tracts of land for their plantations, lent themselves best to the national purpose of expansion.

Japan reached a great turning-point when she was stirred out of her apparent insular complacency by the Russian advance, and entered upon a career of expansion. Since 1895, when her new territorial policy was inaugurated by the acquisition of Formosa, her history reminds one of those explosive seed-pods which at maturity suddenly burst at a touch and scatter their seed abroad. She has acquired in ten years a colonial area nearly equal to that of the home archipelago, and she holds Manchuria with a grip that she does not expect to relax.

Such political expansion would seem to indicate a rapid growth of Japan's ideal of territorial aggrandizement. Very true; but unfortunately the ideal is only skin-deep. It has not permeated the economic and national purposes of the Government, to vitalize and stimulate them; and the Government, still suffering from a mental cramp, is checking the natural and healthy colonizing instincts of the people. Meanwhile, the big colonial territory, in which Japan's large and vigorous surplus population might so easily realize a great national purpose of planting a new Japan on the new soil, is being administered by the Mikado's Government as if it were a fresh suburban addition to a growing town, exploited according to the methods of the average real-estate agent. While the authorities, with the national genius for administration, are organizing schools, courts, sanitation, reforestation, railroads, frontier defences, and surveys of the vast Government lands in the new dependencies, to the emigrant from the home islands they offer no opening in the big task of colonial development. They bestow elaborate attention upon the newly-built hive, but drive off the swarming bees.

Let us consider first Karafuto, the Japanese holding in Sakhalin, as presenting the simplest conditions. Karafuto contains about

12,000 square miles of territory, unoccupied at the time of its acquisition except for 300 Russians who were too poor to leave, and about 2,000 aborigines. Handicapped by the same zonal location and climate as Newfoundland, it is a typical penal island. As a colonial proposition it would require a sugar-coating process to make it go down. The sugar is there in the form of abundant state-owned lands and excellent fisheries, to be applied with a generous hand. What do we find? Japanese to the number of 61,800 crossed over to the island in 1907 and 1908; one-fourth of these were females, a proportion that suggests a body of permanent settlers. But emigration must have been almost as active as immigration, for at the end of 1908 Karafuto contained only 23,139 Japanese. About a thousand families of these (4,000 souls), "in compliance with special inducements offered by the Island authorities"—we quote the official report—settled on the land deserted by the Russians, at the rate of about 5 acres per family. This allowance of tillage land is far more niggardly than the average of $2\frac{1}{2}$ acres constituting the dwarf farm of temperate and sub-tropical Hondo, considering the harsh climate, short growing season, and less profitable crops (oats, rye, beans and tubers), in Sakhalin, whose mean annual temperature is only 41° F. Though the plains of Karafuto, according to official estimate, contain 112,500 acres of tillage land and 137,500 acres suitable for pasturage, and though practically all of this is state-owned, it is measured out to the settler on a cramped, foot-rule scale disastrous to colonial development. The peasant on his poor 5-acre farm in Karafuto finds nothing to compensate him for exile from warm and beautiful Japan, so he does not remain.

The close adherence of settlements to the sea-coast of Karafuto suggests that the colonial ekes out his crops by fishing. Fisheries are the important resource of the island, but they too are administered in an uncolonial manner. Nowhere are they free. Seine fishing is permitted only on special grounds and by special license issued for a certain number of years. Ordinary licenses are issued for 1,300 distinct fishing grounds, the rights to which are sold at public auction. On other grounds fishing is restricted, and on others again it is absolutely forbidden. These regulations may answer some purpose to conserve or distribute the fisheries, or to exploit them for the national revenue; but what is good for fish or finance may prove destructive to a large colonial policy,—to the colonial spirit of initiative, of untrammelled enterprise, of desire to do things on a big scale, and to carry them through with a rush

and a shout in a manner which is called American, but which is simply colonial.

The land policy of the new Government in Korea reveals the same foot-rule standard, imported from the narrow and crowded conditions of the home islands. The density of the population in Korea, according to the last census, is only 154 to the square mile, as opposed to 350 in Japan. The tilled land constitutes only 10 per cent. of the whole peninsula, or half the area that might readily be brought under cultivation. It is estimated that the country by an extension of its agriculture could support an additional population of seven millions. Korean soil consists largely of a light sandy loam, disintegrated lava, and a rich, stoneless alluvium often many feet deep. The rainfall is well-timed and adequate; the country rarely knows droughts or floods. Ample facilities for irrigation and long warm summers afford favorable conditions for the all-important rice culture. Korea has an area of about 84,000 square miles and a population of nearly thirteen millions; but it can undoubtedly support in addition no small part of the surplus population of Japan. Immediately after the Chinese war, in 1895, there was an exodus from the home islands to the peninsula. Yet at the beginning of 1910 only about 145,000 Japanese were settled in Korea. What has checked the rush?

There is no dearth of public lands. The Government owns 319,800 acres of farm lands which is let to tenants, and in addition about 3,000,000 acres of waste land, which is susceptible of cultivation. In order to develop the waste tracts, the Government resorted to leases, a system advisable in colonial countries only as an adjunct to free grants of lands, and those generous ones. A law passed in July, 1907, provided for the lease to any person of state-owned waste land at a nominal rental for a term not exceeding ten years, for tillage, stock-breeding, or afforestation. Up to January 1st, 1911, since the passage of this law, 925 Japanese applied for a total of 205,000 acres. Only eighty-three of the applications were honored, and they received a total of 9380 acres. Koreans, at the same time, to the number of 1176 made applications for the lease of 183,600 acres, but only 133, or about 11 per cent. of them, received 14,900 acres, or a per capita allowance of 112 acres on lease. But during this period of three and a half years certain previous leases to twelve Japanese and thirty-seven Koreans, covering 13,440 acres, were disallowed and the land recovered, so that only 10,840 acres were thrown open to settlement

for 167 lessees. This system, as put into practice, therefore offers scant encouragement to colonists; it is rather a methodical rebuff.

A letter to the writer from the Secretary of the Governor-General of Korea assigns various reasons for this reluctant application of the ten-year lease system. In some cases the tract applied for had to be preserved for the future development of the whole locality; or its use would entail hardship upon neighboring fields because of insufficient water for irrigation, or because its wild growth furnished fuel, thatch and fertilizers to the neighboring settlements; or the applicants themselves had not adequate means to develop the land, and merely wished to lease it for speculative purposes. Though the Government declares its intention to honor as many applications as possible, still the impression remains that we have here a policy of expansion cramped by precedent established in a small crowded territory where land has more value than men; that such a policy ought to be superseded by the true colonial outlook of a new territory, where men are more valuable than land, where land is useful primarily to attract men, and therefore should be given to them freely, coupled with additional inducements to settlers, like free transportation of family and effects. So much for the ten-year lease system in Korea.

The same short-sighted, uncolonial policy is revealed in the sale of land; for the Government has gone into the real-estate business, which it conducts upon canny principles. It operates through the Oriental Development Company, a big stock company organized in 1908 by the Japanese Government and private shareholders to exploit the resources of Korea. The Government nominates the President and two Vice-Presidents, and it holds nearly one-third of the capital stock, for which it has put in an equivalent in state-owned lands. It also pledges itself to lend the Company financial aid not to exceed \$150,000 annually for the first eight years. The "Rule for Settlers," issued by the Company in September of 1910, is significant, because it embodies the old dwarf land scale current in Japan. Settlers may become either peasant proprietors or tenants. The first class may lease paddy fields and dry fields to the total amount of 5 acres per family, and by the payment of annual instalments become owners in twenty-five years. These instalments are fixed high enough to cover in this period the current market price of the land, which averages about \$25 per acre for dry fields and from \$40 to \$50 for paddy, and in addition a 6 per cent. interest on its value, which is considered as an advance. Meanwhile the settler must pay the land tax and all other dues upon his

leasehold. Tenant settlers pay a fixed rent for their land, but they are allowed to buy it eventually, if they prove to be respectable and industrious. Peasant proprietors who have given proof of a similar character may apply to the Company for the purchase of land up to 12½ acres, including their original holding; but this estate represents the rather pitiful summit of colonial ambition in Korea.

Nor are these the only restrictions. Settlers must be over twenty years of age, free from military service, and must bring their families with them. The Company in turn will advance them money up to \$100 per household for their initial expenses, such as building the home, but it exacts 7 per cent. interest on the loan and repayment by annual instalment in twenty-five years or less.

What was the response to these munificent colonial offers on the part of Japan, which has to-day about 420,000 enterprising subjects living in foreign lands? In the year 1910-1911 the Oriental Development Company received 1235 applications from would-be settlers; only 160 of these were approved, and they received barely 4 acres per family. The Thirteen Colonies and Canada and German Poland would have made slow progress by such methods. The official explanation of this apparent reluctance to carry out the avowed purpose of the Company is another and higher purpose to admit only model farmers from Japan, in order to set up a high standard to Korean cultivators. Various applicants were therefore rejected because of their inexperience in agriculture, or inadequate capital, or undesirable personal character. To the outsider, the big national land reserve here, as in Sakhalin, is being handled as if it were the asset of a business corporation looking to well-secured dividends. The larger national enterprise of genuine colonization, with its rapid increase of national wealth, is neglected in this petty retail trade.

But there is the other consideration of the native Korean population and the improvement of their tillage methods. The Japanese settlers are to be glorious examples. This is not a congenial rôle to colonists. Indeed, the efficient colonist is often an untamed spirit, impatient of restraint, rebellious against precedents, but keen for making his own methods on a remote or dangerous frontier, like the unpeopled Diamond Mountains of Korea or the savage border of the Formosan Highlands. Moreover, the glorious examples will prove effective means to stimulate backward Korea only when they are numerous enough to intensify competition. 'Competition is brutal, but it is the only method that can be relied upon to do the work. Moreover, there is another question—whether Japan can afford the slow and costly process of raising those thirteen million

Koreans to the Japanese standard of efficiency, till they can finally reinforce her strength, or whether it were wiser to transplant Japanese colonists on a big scale to the unoccupied public lands of Korea, there to increase to a second Japanese nation. There, given a free hand, encouraged in their spirit of initiative and not thwarted, they can be trusted to develop a colonial type of character with the comprehensive mind of colonials—men of vision for big national schemes, of power to instill into the nation new ideals and new forces of political expansion, such as Japan will need in the future, if she is to hold her own in the East.

From this abortive system of colonization we turn with admiration to Japan's administration of Korean affairs and her efforts in behalf of her Korean subjects. We see her sending the whole nation to school and putting it through a regular curriculum with a view to graduation. Her task is easier than similar national tasks in the Philippines, Java and India, because Japan is dealing with a kindred people, living in a neighboring territory under familiar climatic conditions, having an allied civilization, and, what is more important, capable of being embodied in the body politic of Japan. The question which the Japanese authorities are facing with intense earnestness is this: Whether the despised Koreans, a "Nation of Cowards," as they have been called, brought to the verge of racial and political decay by centuries of misrule, are susceptible of such moral, physical, intellectual and industrial regeneration as will make them a force in Japan's struggle for military and economic supremacy in the Far East. That they can be so regenerated is Japan's hope. The Koreans are regarded as a new national resource to be scientifically developed. Therefore Japan is attacking her problem with a courage, devotion and insight that argue well for her success. She is trying to correct the early mistakes of 1905, when camp-followers and riff-raff streamed into the country in the wake of the army of occupation, before military control had been superseded by an orderly civil government; and she is entrusting the difficult task of reorganization to officials of high character.

The Koreans are docile, amiable, lazy, ineffectual. Centuries of oppression and over-taxation have robbed them of all economic incentive. Their ideal is "honorable idleness"; and to them all idleness is honorable. The coolie class is physically well developed and capable of severe labor; but these, like the middle and upper classes, seem possessed by a deadly inertia. A high official in Seoul said recently to the writer: "These people lack will-power. All we can do is to teach them better methods of agriculture and

industry, secure to them the profits of their labor, and thus gradually lift them. But the hardest thing will be to supplant their ideal of idleness by one of activity."

To this end the Japanese are devoting their attention to the children. They seem to have adopted for their motto Emerson's great saying: "Youth comes ever towards us with salvation in its hands." Common schools are being rapidly established over the whole country, middle and normal schools in the towns and cities, agricultural schools and experimental farms in various places, and agricultural classes embodied in academic courses of study. Textbooks compiled by the educational department are sold for a few pennies or distributed free. For the first time, apart from what the mission schools could offer, the Korean girls have an equal chance with the boys. Think of the boon to that unrecognized half of the Korean race, which was previously deemed unworthy to receive personal names! Their education consists in a wise combination of common school branches and varied industrial training; and it calls forth an eager response that is, to the onlooker, almost pathetic in these little daughters of a dulled, sodden, nerveless race.

The boys' schools provide not only a full course of study, but every stimulus in the form of physical training to overcome Korean inertia. Military drill, football, baseball and tennis are pushed to the front, in order to arouse ambition and the corps spirit, which the native lacks. The purpose to develop in the Korean the manly qualities of the soldier is everywhere apparent. The writer asked an army officer in Pyong-yang Province: "Will you ever be able to make soldiers out of the Koreans?" He replied: "I don't know, but I hope so, if we can begin their training young enough; but up in this section, near the frontier, we must have wholly reliable troops."

The traveler in Korea is impressed by the ineffectuality of the people, their blank and purposeless expression, their feeble and awkward use of tool or implement, their inability to direct their muscular effort except in crude coolie labor. He listens, therefore, with surprise and some admiration to the Governor of Pyong-yang, an intelligent and big-hearted man, who maintains that the incapacity of the Koreans is the result of neglect, that with training they can attain the same technical efficiency as the Japanese, and under proper guidance their products can soon enter the world markets. And as, all eagerness and hopefulness, he described the

methods by which he expected to accomplish this result among his people, one felt that this ruler of a remote northern province was an artist and an economist, but above all a teacher. Devotion, courage, and dogged perseverance in the application of tested methods of development characterize the Japanese officials in Korea. The quality of the natives does not lead an outsider to envy these national educators their task.

Education goes on also outside of school and workshop. The Japanese have accomplished wonders for the public hygiene. Medical schools, hospitals, vaccination stations and modern waterworks for the big cities are being rapidly established. Sanitary associations attend to cleaning streets, removing garbage and sewage, and raising the standard of cleanliness on private premises. The reeking, filthy, malodorous Seoul which Mrs. Isabella Bird Bishop described in 1894 is a thing of the past. In the towns and the neighboring country districts, a continuous spring-cleaning goes on under the supervision of the police, those able apostles of Japanese civilization. Though only the streets and courtyards of the rural village come under their sanitary jurisdiction, they manage somehow to inject the spirit of cleanliness also into the interior of the mud-walled homes.

The well-water in Korean towns often causes epidemics, owing to infiltration from stagnant drains and cesspools. The water from the small polluted streams in the thickly populated coastal plains is little better. Therefore modern waterworks and filter systems have been built in the five large cities, either by the central Government or by the Japanese municipalities with Government aid. After the installation of the waterworks in the city of Pyongyang, it became necessary to forbid by law the sale of the foul river water by the public carriers, in order to force the people to use the pure supply.

The law has had to step in also to educate the Koreans in a respect for forests. For centuries the hills and mountains, now bare and often eroded down to the underlying rock, have been stripped of their trees for fuel. Large timber has disappeared, except for a patch here and there. The young sprouts from the old stumps have been regularly cut in the fall and tied into bundles for firewood. Now all is changed under the direction of an expert Japanese forester. Though he has been at his task only since 1907, already little pine trees begin to dot the surface of the bare slopes. But these infant forests have to be policed, a difficult

undertaking in a large area, for the Koreans still resort to their disastrous practice of cutting the saplings, and only by repeated arrests can they be taught to respect the integrity of the forests. Everything is done to encourage the natives to reforest their own waste lands. Young trees to the number of half a million and many bushels of seeds were freely distributed in 1909 from six forestry stations, and object lessons are furnished in the model afforestation carried out on terraces or slopes about Seoul and other large cities. The little pom-poms of green that now dot the bare hills and give promise of future forests are typical of Japanese efforts for improvement in this decadent country.

In Formosa, colonial administration found a complex problem, for which in the main it has worked out a wonderfully successful solution. When Li Hung Chang, the Chinese Plenipotentiary, handed over Formosa to the Japanese at the Shimonoseki conference in 1895, he offered them his condolences on their new acquisition. Under Manchu rule, Formosa had been notorious for the turbulent character of its Chinese population, the widespread brigandage, the prevalence of the opium habit and fatal malaria, and finally the head-hunting savage aborigines, who were a constant menace to economic development. The outlook was not encouraging.

The Japanese found the area of the island about equally divided between three million Chinese who had appropriated and tilled the fertile western lowlands, and the Malay savages, who, though numbering little over a hundred thousand, maintained themselves in the fastnesses of the eastern mountains, and from this base made depredations upon the frontier. The Chinese population contained many fugitive lawless elements, who either reformed amid the large opportunities and free life of this colonial island, or were recruited into the bands of the professional brigands. These bands were also reinforced at the time of the Japanese acquisition by insurgent Chinese who refused to submit to the new authorities. But the security to life and property guaranteed by the orderly Japanese rule appealed to the industrious Chinese and gained their allegiance for the Government. The brigands were either offered pardon and then systematically employed in some of the rough work incident to organizing a new country; or where incorrigible, were brought under control by force. To-day the country is quite free from them, where only ten years ago they assaulted the capital Taihoku, and necessitated an armed guard for every excursion beyond the city walls.

The opium evil has been curbed with equal success. To this end, the production and manufacture of opium were made a Government monopoly; thus the quality, quantity and distribution of the drug was controlled. Then the efficient Formosan police took a census of those addicted to the habit; thereafter only confirmed smokers were allowed to buy the drug, and that only in specified quantities, for the sale goes on under strict police surveillance. As a result of this method, the annual returns of the consumption of opium and of the number of smokers show a parallel decline, as the older victims of the habit die off. Thus the number, which was 170,000 in 1900, dropped to 130,000 in 1905.

The Japanese have coped with insurgents, brigands and opium smokers, but they have been in the main worsted by the swarms of *Anopheles* mosquitoes breeding in the widespread paddy fields of the Formosan plain. Malaria is responsible for about 20 per cent. of all the cases of sickness in the island, and for probably 10 per cent. of the mortality. In the capital, Taihoku, it is being successfully combated by a new model sewerage system and water-works, so that this city has become comparatively a safe place of residence. Other towns are following its example. For this reason, the Japanese immigrants, who are found largely in the towns and cities, show a smaller mortality from malaria than do the Chinese, who are distributed through the irrigated plain. Malaria may explain the constant exodus of Japanese from Formosa and the small number of immigrants who remain in the island; their marked appetency for the liberal professions, trade, and technical industries,—all occupations appropriate to urban life; and their apparent reluctance to engage in agriculture, stock-raising, forestry, and even fisheries, all which together employ only 1.4 per cent. of the Japanese population of Formosa. It may be that malaria is going to prove the great obstacle here to genuine colonization, since it is chiefly the Japanese farmer class that needs an outlet.

The expansion of Japanese control into the Malay mountain section of Formosa, and the consequent problem of a belligerent savage frontier, are the result of interesting economic and geographic factors. That expansion has been stimulated and directed into the mountains by the growing demand in the world markets for camphor and tea. Ordinarily savage tribes are long left in undisputed possession of their mountain lands, because these usually repay cultivation only under heavy pressure of population from the plains. But the mountains of Formosa, on the contrary, have attracted

expansion, because they commanded a practical monopoly of the camphor industry, which has a limited activity elsewhere only in Japan. The *Raubwirtschaft* methods of the Chinese have, since 1790, steadily destroyed the camphor fields without replanting. Beginning at that time on the eastern frontier of the agricultural lands in the plains, they have pushed their camphor camps first into the foot-hills and then into the mountains, cutting down the forests and driving the savages farther into the highlands. The camphor question and the savage question are, therefore, identical, for the hill tribes, who resent this steady encroachment, raid the camps, destroy the stills, and massacre the workers at every chance, incidentally carrying off the heads of their victims, according to respected ancestral usage, to grace a wedding feast or a funeral ceremony.

As the forests fall and the camphor workers advance, in their wake come the tea planters to occupy the cleared lands. Hilly ground with an altitude ranging between 1,000 and 4,000 feet, a hot climate with an annual rainfall of 80 inches or more, and a light sandy loam soil combine to form ideal conditions for tea culture. These conditions were found in or bordering upon the savage territory of Formosa as early as 1868, and since that date they have been steadily exploited, at first under an official or volunteer guard of armed Chinese, and recently under the protection of the more efficient Guard Line of the Japanese; because the frontier of settlement is always the lurking place of the head-hunting savages, ready to commit depredations upon the frontier villages.

The needs of the camphor industry, which yields a large revenue as a Government monopoly, and the expanding tea culture, which, in 1908, accounted for over two-thirds of the total export receipts of the island, together keep the Japanese Guard Line constantly on the advance into the savage wilderness. In 1904 some 300 square miles of territory were reclaimed for civilization and development.

The Guard Line is a border outpost defence, designed to protect the settlements and curb the aborigines. Its striking and original feature is a wire fence, 5 feet high, the lowest wire of which is charged with an electric current strong enough to stun or kill anyone trying to climb over or creep under it. It stretches for over 300 miles through the mountains along the savage border, and it is guarded about every 500 yards by block-houses, in which are stationed armed police. The fence is cleared of brush for 30 feet on either side, so that no one can approach without detection. The savages are warned of the danger in it, and consequently few of

them have been killed ; but the fence serves to confine them in their own area, and to cut them off from outside supplies, especially from salt. Thus the Japanese are able to put on the screw. Under the pressure of this need, tribe after tribe has submitted to authority, given up their arms, and allowed their territory to be included within the Guard Line. In return, they are given agricultural implements, seed, land for cultivation, and medicines when they are sick. They relinquish head-hunting, but in deference to tribal ideals use monkey skulls instead. The right of trade is conferred as a privilege upon certain tribes or certain individuals ; it is restricted to necessary articles, from which firearms and ammunition are specifically excluded. It is cut off immediately if the rules are violated, or if the tribe become unruly. The agents in this wise and humane conquest of the savages are the police in the block-houses. These carefully chosen and carefully trained officers of the law distribute medicine to the sick, supervise disinfection, teach the savage children the rudiments of the Japanese language and manners, control barter between the savages and the common people, prevent the sale of guns, take observations upon aboriginal life, and gather information about tribal affairs. They exemplify the genius of the Japanese for adapting means to ends.

Economy of administration and the intelligent development of local production and industries enabled Formosa to be self-sustaining as early as 1908, so that the small subsidy annually granted by the hard-pressed national treasury in Japan could be dispensed with two years before the allotted time. The long list of Government monopolies in Formosa (opium, camphor, salt and tobacco) and of Government enterprises, such as railroads, camphor refineries, and irrigation works with hydro-electric power, have helped to achieve this end. But these monopolies naturally raise a question as to the effect upon opportunities open to Japanese immigrants.

The riff-raff from the home islands that flocked to Formosa, as to Korea, after the acquisition made difficulties for the Government and led them to discourage further influx. Those who came found the level land suitable for agriculture already fully possessed by the Anopheles mosquito and by the industrious Chinese, who showed a population of 415 to the square mile in the civilized area. The most lucrative occupations were already in the hands of the Government and of the Chinese. The door of opportunity was closed in the new colonial land. This was the condition which the would-be colonist found upon arrival ; so he went back home. Hence the striking fact about Japanese immigration into Formosa is the ex-

cessive emigration, which steadily increased from 1898 to 1904, as the following table shows:

YEAR	ARRIVALS	DEPARTURES	INCREASE
1898	13,214	3,078	10,136
1899	20,743	7,903	12,840
1900	20,995	8,842	9,704
1901	17,841	14,054	3,787
1902	13,821	11,478	2,343
1903	15,892	13,149	2,743
1904	11,564	12,155	-591

The excess of departures over arrivals in 1904 is doubtless due, in part, to the recall of reservists for the Russo-Japanese war; but the table as a whole points to some persistent cause of discouragement to immigration. So do other statistics. The number of Japanese who, prior to 1905, had come more than once was only 2,383, or 2 per cent. of the total number of arrivals given in the table. This means that only a scant proportion of the big number who left ever came back. Apparently their survey of conditions in the island or their taste of Formosan life was not reassuring. It is furthermore significant that while women, from 1898 to 1905, constituted about one-third of the annual arrivals, in 1901 and after they formed over one-half of the annual increase. This is contrary to normal colonizing experience, which shows always a marked predominance of men.

At the end of 1905, after ten years of Japanese occupation, the Japanese citizens in Formosa numbered only 57,309, or less than two per cent. of the total population. Government offices and the liberal professions employed 40 per cent. of these, while agriculture, forestry and fisheries all together engaged only 1.4 per cent. This is the striking anomaly in Formosa, that a people with a gift and love for farming should avoid the occupation native to them and natural to every normal colonist. The Census of Population in Formosa for 1905 states that this scarcity of agricultural immigrants, in spite of rich agricultural resources, is chiefly due to general ignorance of the condition of the island; but this reason is not convincing. In a country where almost every person can read, and where newspapers are abundant, this ignorance could not long endure. Moreover, the 70,569 Japanese who went to Formosa and left again between 1898 and 1905 are certainly exempt from the charge of ignorance.

Making due allowance therefore for the competition of the Chinese

and the effects of malaria in a country of paddy fields swarming with mosquitoes, but also taking into consideration the extensive area of more healthful mountain land in Formosa reclaimed from the savages and devoted to tea culture, in which the Japanese excell, one cannot escape the conclusion that here, as in Sakhalin and Korea, Japanese colonial methods fall short at a vital point.

GEOGRAPHICAL ASPECTS OF THE NEW MADEIRA-MAMORÉ RAILROAD

By ISAIAH BOWMAN

The recent completion of the Madeira-Mamoré Railroad about the so-called "Falls of the Madeira" marks the close of a unique chapter in South American geography and history and the opening of a new and remarkable period of commercial development. The Collins railway scheme of 1878-1880 was the first practical attempt to solve the problem, though a canal had been talked of for many years. It followed the brilliant studies* by Col. George E. Church in which the Amazon route to the Atlantic had its most vigorous champion. With the tragic failure of that ambitious enterprise the world has been made acquainted in Craig's belated book.† In our own time we have had a revival of interest in this history-making field through a combination of extraordinary political and commercial events.

The famous quinine industry of eastern Bolivia flourished for many years, but by 1890 it was seriously affected and at last completely undermined by the destructive manner in which the trees were cut and by cheaper production on the plantations of India.‡ Even in its palmy days it paid a heavy tax in transportation. By 1881 cinchona could be gathered only in places almost inaccessible, and the cost of carriage from Bolivia to Europe was no less than

* The Route to Bolivia via the River Amazon. A Report to the Governments of Bolivia and Brazil. 216 pp. Map. Waterlow & Sons, Ltd., London, 1877. The Rapids of the Madeira Branch of the Amazon River. A Preliminary Report upon the Madeira and Mamoré Railway. 1869.

† Recollections of an Ill-Fated Expedition to the Headwaters of the Madeira River in Brazil. By Neville B. Craig. 479 pp. Maps, ills., index. J. B. Lippincott Co., Philadelphia, 1907.

‡ Explorations in the Rubber Districts of Bolivia. By H. Arnous de Rivière. *Bull. Amer. Geogr. Soc.*, Vol. 32, 1900, pp. 432 *et seq.*